

IN THE CLAIMS:

Please cancel claims 1-20 and add the following new claims:

1. - 20. (Canceled).

21. (New) A tubular reactor for catalytic gas phase reactions comprising, in combination:

(a) a heat carrier circulating around a contact tube bundle inside a reactor jacket, the tube bundle consisting of single piece tubes extending through a first tube plate at the gas inlet side and a second tube plate at the reaction gas outlet side, beginning and ending at the first and second tube plates, respectively, and being sealed with respect to these tube plates, the two tube plates being anchored in an essentially known manner at their edges to the reactor jacket and being sealed with respect to the reactor jacket;

(b) gas inlet and gas outlet hoods spanning the face sides of the first and second tube plates, respectively; and

(c) a heat insulation zone that borders on the heat carrier side of the first tube plate at the gas inlet side

and that includes at least one of (1) a chamber containing a solid, liquid or gaseous heat insulation material, and (2) built-in components that are stream-calming with respect to the heat carrier.

22. (New) Tubular reactor as set forth in claim 21, wherein the heat insulation zone exhibits a locally varying thickness.

23. (New) Tubular reactor as set forth in claim 21, wherein the heat insulation zone exhibits a locally varying structure.

24. (New) Tubular reactor as set forth in claim 21, wherein the heat insulation zone is limited to partial tube-free areas of the tube plate on the gas inlet side.

25. (New) Tubular reactor as set forth in claim 21, having a heat insulation zone in the form of a chamber, the improvement wherein a liquid or gaseous heat insulation material in said chamber is prevented from circulating by structures installed in said chamber.

26. (New) Tubular reactor as set forth in claim 21, having a heat insulation zone in the form of a chamber, the improvement wherein a liquid or gaseous heat insulation material is circulated through said chamber as cooling medium.

27. (New) Tubular reactor as set forth in claim 26, wherein a partial stream of the heat carrier circulating around the contact tube bundle is used as said liquid or gaseous heat insulation material.

28. (New) Tubular reactor as set forth in claim 21, having a heat insulation zone formed by built-in components, the improvement wherein said components exhibit a honeycomb or concentric ring structure.

29. (New) Tubular reactor as set forth in claim 28, wherein said components are covered, at least on the side opposite the tube plate on the gas inlet side.

30. (New) Tubular reactor as set forth in claim 29, wherein said components are sealed on the side opposite the tube plate on the gas inlet side.

31. (New) Tubular reactor as set forth in claim 21, wherein the heat insulation zone is limited to the edge area of the tube plate on the gas inlet side.